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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,499	12/20/2001	Jon Eric Okholm	6533/53656	2002
30505	7590	09/06/2005	EXAMINER	
MARK J. SPOLYAR			DYKE, KERRI M	
38 FOUNTAIN ST.			ART UNIT	
SAN FRANCISCO, CA 94114			PAPER NUMBER	

2667

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/027,499	Applicant(s) OKHOLM ET AL.	
	Examiner Kerri M. Dyke	Art Unit 2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14,16-19 and 21-31 is/are rejected.
- 7) ☒ Claim(s) 15 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: “interface” referenced as Figure 5 element 60 on page 15. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 4 element 326. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not

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accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-8, 11, 14, 16-19, and 21-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Cisco NetFlow, which is explained in several documents including “NetFlow Services and Applications,” (referred to as NetFlow).

In regards to claim 1, Cisco NetFlow discloses a method facilitating the configuration of parameters controlling utilization of a network resource, comprising the steps of: monitoring utilization of a network resource with respect to a plurality of utilization classes; displaying the most significant utilization classes based on a network statistic; and, facilitating association of a displayed utilization class with a control parameter operative to control utilization of the network resource. On the bottom of page 1 and top of page 2 of NetFlow it is disclosed that NetFlow is configured to monitor and report network utilization of a resource with respect to a plurality of utilization classes. Some of the utilization classes are shown on page 7 of NetFlow, where it is disclosed the traffic can be sorted by type of IP protocol used. The network statistics are displayed to a manager using the NetFlow FlowCollector User Interface as disclosed on page 21. On page 24 of NetFlow it is disclosed that the top N most significant classes may be chosen for viewing and processing. Network statistics include information such as source and destination

IP addresses, port numbers, and number of packets in a data flow. Pages 17-18 disclose that network statistics are included in the aggregation records. It is also disclosed on page 21 of NetFlow that the configuration, i.e. control, parameters can be adjusted using the interface.

In regards to claim 2, NetFlow discloses the method of claim 1 further comprising the step of: facilitating selection of additional utilization classes not presented in the displaying step and association of control parameters to the additional utilization classes. Page 21 of NetFlow Services discloses that the interface can be used to define and modify configuration parameters. Page 23 discloses that the user can retrieve and display collected data. It is inherent that additional data can be displayed simply by repeating the retrieval process. The “Get TopN” function described on page 24 could also be run again using a larger N to display more utilization classes than were previously available. Configuration parameters could then be set for these new classes.

In regards to claim 4, NetFlow discloses the method of claim 2 wherein the facilitating step comprises the steps of providing a user interface allowing for selection of a displayed utilization class and a desired control parameter; and wherein the user interface allows for selection of additional utilization classes and configuration of desired allocations of the network resource for selected additional utilization classes. Page 21 of NetFlow Services discloses that the interface can be used to define and modify configuration parameters. Page 23 discloses that the user can retrieve and display collected data. It is inherent that additional data can be displayed simply by repeating the retrieval process. The “Get TopN” function described on page 24 could also be run again using a larger N to display more utilization classes than were previously available. Configuration parameters could then be set for these new classes.

In regards to claim 3, NetFlow discloses the method of claim 1 wherein the facilitating step comprises the steps of providing a user interface allowing for selection of a displayed utilization class and a desired control parameter. Page 21 of NetFlow Services discloses the interface with adjustable control parameters. Page 23 discloses that the user can retrieve and display collected data.

In regards to claim 5, NetFlow discloses the method of claim 1 further comprising the step of upon selection by a user, associating a selected utilization class with control parameter selected by the user. Page 21 of NetFlow disclosed that the user could define new configuration parameters. It is inherent that these control parameters would be associated with a utilization class in order to function.

In regards to claim 6, NetFlow discloses the method of claim 1 wherein the displaying step further comprises providing a user interface that displays the most significant utilization classes based on a utilization statistic; wherein the user interface allows for selection of a displayed utilization class and a desired control parameter. Pages 21 and 23 disclose that the interface can display selected utilization classes and control parameters. Page 24 discloses the "Get TopN" function, which allows for the selection of the top N utilization classes.

In regards to claim 7, NetFlow discloses the method of claim 6 wherein the user interface further allows for selection of additional utilization classes not presented in the displaying step and configuration of desired control parameters for selected additional utilization classes. Page 21 of NetFlow discloses that the interface can be used to define and modify configuration parameters. Page 23 discloses that the network manager can select any data set for viewing. The "Get TopN" function described on page 24 could also be run again using a larger N to display

more utilization classes than were previously available. Configuration parameters could then be set for these new classes.

In regards to claim 11, NetFlow discloses the method of claim 6 wherein the user interface displays the most significant utilization classes in an order relative to corresponding values of the network statistic. Page 24 discloses the “Get TopN” feature, which displays the top N data flows based upon the chosen network statistic. These flows can then be sorted to display in order depending upon, for example, the number of bytes or packets, also disclosed on page 24.

In regards to claim 8, NetFlow discloses the method of claim 1 wherein the most significant utilization classes are displayed in an order relative to corresponding values of the network statistic. Page 24 discloses the “Get TopN” feature, which displays the top N data flows based upon the chosen network statistic. These flows can then be sorted to display in order depending upon, for example, the number of bytes or packets, also disclosed on page 24.

In regards to claim 14, NetFlow discloses the method of claim 1 further comprising the steps of providing a set of selectable network statistics; receiving a selected utilization statistic from a user; and, wherein the displaying step comprises displaying the most significant utilization classes based on the selected network statistic. Network statistics include information such as source and destination IP addresses, port numbers, and number of packets in a data flow. Pages 17-18 disclose that network statistics are included in the aggregation records. On page 5 it is also disclosed that the traffic statistics are collected, i.e. received. Page 9 discloses that the display is equipped with a “Get TopN” feature, which allows for the display of the top, i.e. most significant, flows based on the selected network statistic.

In regards to claim 16, NetFlow discloses the method of claim 1 wherein the network statistic is a utilization statistic. Network statistics include information such as source and destination IP addresses, port numbers, and number of packets in a data flow. Pages 17-18 disclose that network statistics are included in the aggregation records. These statistics include total bytes and number of packets in a dataflow, which are inherently utilization statistics. Therefore, utilization statistics are inherently available display to the network manager using the interface.

In regards to claim 17, NetFlow discloses the method of claim 1 wherein the network statistic is computed over a given analysis interval; and wherein the method further comprises the steps of: allowing for selection of an analysis interval. Page 24 discusses the time bar, which can be adjusted to establish an applicable time period for analysis.

Claim 18 is for the method of claim 1 where the network resource is specified to be bandwidth. A utilization class is a traffic class. Page 2 discloses the ways that the NetFlow system can be used for bandwidth management. The user monitoring and profiling section discloses that the utilization of resources can be observed and then better allocated using NetFlow. Bandwidth is inherently one of these resources. Without bandwidth no work can be done over a network. On the bottom of page 1 and top of page 2 of NetFlow it is disclosed that the NetFlow system is configured to monitor and report network utilization of a resource with respect to a plurality of utilization classes. Some of the utilization classes are shown on page 7 of NetFlow, where it is disclosed the traffic can be sorted by type of IP protocol used. The network statistics are displayed to a manager using the NetFlow FlowCollector User Interface as disclosed on pages 21 and 23. On page 24 it is disclosed that the top N most significant classes

may be chosen for viewing and processing. Network statistics include information such as source and destination IP addresses, port numbers, and number of packets in a data flow. Pages 17-18 disclose that network statistics are included in the aggregation record. It is also disclosed on page 21 that the configuration, i.e. control, parameters can be adjusted using the interface.

Claim 19 is essentially for the method of claim 2 where the network resource is specified to be bandwidth and a utilization class is referred to as a traffic class. Page 2 discloses the ways that the NetFlow system can be used for bandwidth management. The user monitoring and profiling section discloses that the utilization of resources can be observed and then better allocated using NetFlow. Bandwidth is inherently one of these resources. Without bandwidth no work can be done over a network. Page 21 of NetFlow Services discloses that the interface can be used to define and modify configuration parameters. Page 23 discloses that the user can retrieve and display collected data. It is inherent that additional data can be displayed simply by repeating the retrieval process. The "Get TopN" function described on page 24 could also be run again using a larger N to display more utilization classes than were previously available. Configuration parameters could then be set for these new classes.

In regards to claim 21, NetFlow discloses the method of claim 18 wherein the bandwidth utilization control is implemented by an aggregate data flow bandwidth utilization control. Page 21 discusses the configuration parameters and pages 17-18 disclose the different aggregation schemes available, including by protocol type.

In regards to claim 22, NetFlow discloses the method of claim 18 wherein the bandwidth utilization control is implemented by a per-flow bandwidth utilization control. On page 4 it is

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disclosed that aggregated NetFlow services can be used simultaneously with traditional, i.e. per-user NetFlow services.

In regards to claim 23, NetFlow discloses the method of claim 18 wherein the bandwidth utilization control is implemented by at least one aggregate data flow bandwidth utilization control and at least one per-flow bandwidth utilization control. On page 4 it is disclosed that aggregated NetFlow services can be used simultaneously with traditional, i.e. per-user NetFlow services.

In regards to claim 24, NetFlow discloses the method of claim 18 wherein the monitoring step further comprises the step of automatically creating new traffic classes in response to data flows. Page 2 discloses that NetFlow automatically determines if a packet is part of an existing flow. If it is not a new flow is created. Parts of the packet, such as IP protocol, are monitored for filtering and aggregation purposes, as disclosed on pages 5-7. It is inherent that a new traffic class will be created if necessary, such as a for a new IP protocol.

In regards to claim 25, NetFlow discloses the method of claim 18 wherein the network statistic is computed over a given analysis interval; and wherein the method further comprises the steps of: allowing for selection of an analysis interval. Page 24 discloses the time bar, which can be adjusted to establish an applicable time period for analysis.

Claim 26 is for an apparatus that contains a traffic discovery engine. This traffic discovery engine is operative to accomplish the method of claim 18. NetFlow is a program that is operative to accomplish the method of claim 18. It can inherently be called a traffic discovery engine. On pages 11-12 the apparatuses that can contain the NetFlow program are disclosed.

In regards to claim 27, NetFlow discloses the apparatus of claim 26 wherein the bandwidth utilization statistic is selectable by a user. Network statistics include information such as source and destination IP addresses, port numbers, and number of packets in a data flow. Pages 17-18 disclose that network statistics are included in the aggregation records. On page 3 it is disclosed that the user can select data sets, which are a collection of traffic information. It is inherent that the user could select a data set that pertains specifically to the bandwidth traffic statistics.

In regards to claim 28, NetFlow discloses the apparatus of claim 26 wherein the bandwidth utilization statistic is computed over an analysis interval. Page 24 discloses the time bar, which can be adjusted to establish an applicable time period for analysis.

In regards to claim 29, NetFlow discloses the apparatus of claim 28 wherein the analysis interval is selectable by a user. Page 24 discloses the time bar, which can be adjusted to establish an applicable time period for analysis.

In regards to claim 30, NetFlow discloses the apparatus of claim 26 wherein the traffic discovery engine is further operative to create new traffic classes in response to data flows. Page 2 discloses that NetFlow automatically determines if a packet is part of an existing flow. If it is not a new flow is created. Parts of the packet, such as IP protocol, are monitored for filtering and aggregation purposes, as disclosed on pages 5-7. It is inherent that a new traffic class will be created if necessary, such as a for a new IP protocol.

In regards to claim 31, NetFlow discloses the apparatus of claim 26 wherein the user interface allows for the display of additional traffic classes. Page 23 discloses that the network manager can select any data set for viewing, which includes additional traffic classes.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over “NetFlow Services and Applications” (referred to as NetFlow) in view of NetFlow FlowAnalyzer chapter 3 (referred to as FlowAnalyzer).

In regards to claims 9 and 12, NetFlow discloses the methods of claims 1 and 6. Netflow does not disclose sorting in descending order.

Page 3-25 of FlowAnalyzer discloses that numeric data can be sorted in descending order.

It would have been obvious to one of ordinary skill in the art to sort the data collected by NetFlow in descending order and taught by FlowAnalyzer.

The motivation for doing so is given on page 15 of Netflow where it is disclosed that FlowAnalyzer is meant to function as a part of a family of products. All the functions of FlowAnalyzer are intended to be available within the system taught by NetFlow.

6. Claims 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over “NetFlow Services and Applications” (referred to as NetFlow) in view of MacGregor et al. (US 5,396,621).

Netflow discloses the methods of claims 1 and 6, but does not disclose the columns being sorted in ascending order.

MacGregor et al. discloses in column 10 lines 16-18 that their data can be sorted into either descending or ascending order.

It would have been obvious to one of ordinary skill in the art to modify Netflow to accommodate for sorting in ascending order, as taught by MacGregor et al., as well as sorting in descending order, which is already disclosed by NetFlow.

The motivation for doing so would have been to allow the user to sort and view the data according to parameters entered by the user as described in column 10 lines 13-18.

Allowable Subject Matter

7. Claims 15, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. "Computing Resources for Residents" is provided to dormitory residents at the University of Illinois at Urbana-Champaign. It provides information about the use of NetFlow to restrict bandwidth to each IP address in order to prevent both service deactivation and network overload.

b. Jackowski et al., US 6,141,686, wherein a method for generating and reporting network statistics is disclosed.

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- c. NetFlow FlowAnalyzer chapter 1 provides additional details about the capabilities available for network and bandwidth management.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri M. Dyke whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Friday, 8:10 am - 4:15 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kmd

KWANG BIN YAO
PRIMARY EXAMINER
